Xiphomyrmex spinosus subsp. *wheeleri* (Forel)

Tetramorium (*Xiphomyrmex*) *wheeleri* Forel, Ann. Soc. Ent. Belg., Vol. 45, p. 128 (1901). *Worker.* Mexico.

Xiphomyrmex spinosus subsp. *wheeleri* (Forel) Wheeler, Bull. Amer. Mus. Nat. Hist., Vol. 34, p. 416 (1915). *Worker.*

Worker.—Length 3.5–3.7 mm.

Posterior border of head faintly emarginate. Antennal club distinctly infuscated. Thorax, viewed from above, with a very distinct mesoepinotal constriction. Metasternal angles blunt, not spine-like. Gaster smooth and shining except for the scattered piligerous punctures. Hairs on the tibiae apparently longer and more reclinate than with *spinosus*.

Description based on 3 cotypes from the type locality, Pacheco, Zacatecas, Mexico; W. M. Wheeler (Amer. Mus. Nat. Hist.).

Wheeler states that he took in the Miller Canyon (Huachuca Mts., Ariz.) specimens of a form closely related to *wheeleri* but differing in the size of the epinotal spine, type of rugosity of postpetiole, and infuscation of the antennal club. I have seen specimens from the Ramsey Canyon of the same mountains which seem to belong to this undescribed form mentioned by Wheeler. These were taken by Dr. W. S. Creighton.

Wheeler apparently collected his type specimens from a small colony beneath a stone in the cactus desert.

PALEOBOTANY.—*Two fossils misidentified as shelf-fungi.*[1] ROLAND W. BROWN, U. S. Geological Survey.

In 1936 I described *Polyporites stevensoni* Brown[2] as a Cretaceous shelf-fungus. This specimen megascopically, and in such microscopic details as are preserved, resembles very closely a living species of shelf-fungus growing on *Eucalyptus* in Australia. Recently, however, a chance observation of some Paleozoic corals of the syringopore group caused me to reexamine the supposed fungus with the result that I am now chagrined to admit that *Polyporites stevensoni* is not a fungus but a syringopore coral of probably undeterminable species. Evidently the specimen, which I considered as indigenous to the flora preserved in Upper Cretaceous strata along the Cannonball River in southwestern North Dakota, was a pebble that had been transported from some Paleozoic source far to the west.

The description of *Polyporites stevensoni* followed a precedent set by *Polyporites browni* Wieland[3] as stated in my paper. The mistake in regard to *P. stevensoni*, therefore, aroused suspicions with respect to

[1] Received February 21, 1938.

[2] This JOURNAL **26**: 460-462. 1936.

[3] WIELAND, G. R. *A silicified shelf fungus from the Lower Cretaceous of Montana.* Am. Mus. Nov. **725**: 1-13. 1934.

P. browni, which, however, is said to have been collected from the Cloverly formation (Lower Cretaceous) exposed along Beauvais Creek, 40 miles south of Billings, Mont. Through the courtesy of Dr. Barnum Brown and the American Museum of Natural History I have been permitted to reexamine that specimen. A chemical analysis by E. P. Henderson of the National Museum showed a high percentage of phosphate radical, which is strong, presumptive evidence that the fossil is a bone, not a fungus. With this hypothesis in mind, and with the rather distinctive surface and internal structure of the specimen as a guide, a search with C. W. Gilmore through the National Museum vertebrate collections resulted in the elimination of every available possibility except the dental plates of Jurassic and Cretaceous species of the lung-fish, *Ceratodus*. The correspondence, detail for detail, with these remains is so close that there is little, if any, doubt that *Polyporites browni* represents *Ceratodus*. The specimen is therefore renamed *Ceratodus browni* (Wieland) Brown, n. comb.

PROCEEDINGS OF THE ACADEMY AND AFFILIATED SOCIETIES

CHEMICAL SOCIETY

494TH MEETING

The 494th Meeting was held in the Auditorium of the George Washington University School of Medicine on Thursday, October 14, 1937, President NICOLET presiding.

The program was presented in three sections as follows:

ANALYTICAL and INORGANIC CHEMISTRY, A. R. MERZ presiding.:

JOHN W. KNOWLTON and FREDERICK D. ROSSINI: *Method and apparatus for the rapid conversion of deuterium oxide into deuterium.*—A glass bulb at one end of the evacuated conversion apparatus contains a sealed ampoule holding the liquid deuterium oxide. This ampoule of "heavy" water is broken by placing liquid air around the outer bulb, which is subsequently heated electrically to control the passage of the vapors of deuterium oxide into the reaction tube, containing powdered magnesium at 480°C, where the following reaction occurs:

$$Mg(solid) + D_2O(gas) = MgO(solid) + D_2(gas).$$

The rate of evolution of deuterium can be made as great as one mole in two hours. The evolved deuterium passes through a liquid air trap and is collected as liquid in a 0.05 liter brass bottle immersed in ordinary liquid hydrogen (temperature about −253°C). The connection to the conversion apparatus is closed, that to a 1 liter brass bottle is opened, and the deuterium is permitted to vaporize and fill two brass bottles at room temperature. In this manner 95 percent of the deuterium is obtained in the 1 liter bottle as a gas under a pressure of about 23 atmospheres. (*Authors' Abstract*)